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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,634	06/10/2005	Yasuhito Yuasa	5301756	8960

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EXAMINER
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RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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10/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/538,634

**Applicant(s)**

YUASA, YASUHIITO

**Examiner**

Christopher RoDee

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 25-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/10/05 7/25/07.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group I, claims 1-24, in the reply filed on 19 September 2007 is acknowledged.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshino *et al.* in US Patent Application Publication 2004/0058258.

Yoshino discloses a toner comprising a binder resin, a colorant, and a wax releasing agent, a mixture of external additives having a first size of from 5 to 30 nm and a second size of from 30 to 70 nm, and another external additive that is a surface coated silica (Abstract; ¶¶ [0053], [0095] - [0097]). The external additive is an inorganic oxide covered with a polysiloxane and a fatty acid metal salt (¶¶ [0072] – [0075]) and is a silica, titanium oxide, alumina, or zinc oxide with a volume-average particle size of from 80 to 300 nm (¶¶ [0059], [0062], [0065]). Exemplified fatty acid metal salts include zinc stearate and calcium stearate (see ¶ [0087] & Inorganic Oxide Powders (A) – (C)). The polysiloxane is added in an amount of from 0.15 to 45

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parts by weight per 100 parts by weight of the inorganic powder and the fatty acid metal salt is in similar amounts, preferably e to 30 parts per 100 parts by weight of the inorganic powder ([0079] & [0082]).

The toner is mixed with a coated carrier to form a two-component developer ([0099] – [0111]). Useful resins include fluorine resins and silicone resins ([0102]).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claims 1-3 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugiura *et al.* in US Patent Application Publication 2003/0152857.

Sugiura discloses a toner particle comprising a binder resin, a colorant, and a wax (Abstract; [0220] – [0224]). As seen in Example B-9, a 40 nm external additive silica with dimethyl silicone oil and zinc stearate ([0543]). Dimethyl silicone oil is a polysiloxane oil (also see [0206] & [0207]). The toner is combined with a carrier coated with a silicone resin and an aminosilane ([0499]). Other silicone oils include methylphenyl silicone oil and methyl hydrogen silicone oil ([0207]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 12-14, 17, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura *et al.* in US Patent Application Publication 2003/0152857 in view of by Kobayashi *et al.* in US Patent Application Publication 2003/0091923.

Sugiura was discussed above. The reference discloses a carrier coated with a silicone resin and an aminosilane but does not disclose the specific carrier having a fluorine modified silicone resin and an aminosilane in the carrier coating layer.

Kobayashi discloses a carrier having a core with a coating resin layer on its surface to give an exposed area of 2 to 20% (Abstract; ¶ [0025]). The coating resin layer contains an aminosilane in an amount of from 2 to 60 weight percent based on the solids content of the coating and a silicone, such as an organic silicone resin and a fluorine-modified silicone resin (¶¶ [0029] – [0033]). As seen in the general formula, halogen groups (e.g., the specified fluorine) are present on the crosslinked silicone (¶ [0033]). The exemplified carrier of Example 3 contains 23.1 weight percent of aminosilane based on the solids content (i.e.,  $36/(36+120)$ ). The coating resin layer also contains conductive particles in an amount of 0.5 to 6 weight percent (¶ [0027]; Example 3). The coating resin composition of the carrier provides a layer that does not readily fall off, wear, or fuse (¶ [0029]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the carrier of Kobayashi as the carrier in the invention of Sugiura because Sugiura teaches that a carrier having a coating of a silicone resin and an aminosilane is desirable and the supporting Kobayashi reference discloses a specific carrier having the same types of carrier coating materials that gives good image density over various environmental characteristics (¶ [0025]). Fluorine-modified silicone resins are specifically disclosed as useful on the carrier with the aminosilane compound as the coating layer.

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Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura *et al.* in US Patent Application Publication 2003/0152857 in view of "Technical Information TI 1222, Special hydrophobic AEROSIL® (SHA) for Toners", Nippon Aerosil, p. 5.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura *et al.* in US Patent Application Publication 2003/0152857 in view of by Kobayashi *et al.* in US Patent Application Publication 2003/0091923 in view of "Technical Information TI 1222, Special hydrophobic AEROSIL® (SHA) for Toners", Nippon Aerosil, p. 5.

Sugiura alone and in view of Kobayahi were discussed above. The references do not identically disclose the combination of the above noted additive in combination with a negatively chargeable silica powder with a particle size of 6 to 30 nm, Sugiura does disclose that the toner may have additional additives with a size of from 1 to 100 nm or a mixture of additives having sizes of from 20 nm or less and 30 nm or more (§ [0203]). Disclosed additives include R972, R974, RY200, and RX200, which are all identified in the Technical Information sheet as negatively charging additives.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select one of the R972, R974, RY200, and RX200 or any negatively charging silica as the additive silica in Sugiura because Sugiura teaches each of these additives as effective and the supporting art discloses these treated silicas as negatively charging. The artisan would, from the totality of the disclosure, choose a negatively charging silica within the disclosure size range, such as at 20 nm or 30 nm because each of these sizes is disclosed as effective by the reference.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura *et al.* in US Patent Application Publication 2003/0152857 in view of Tyagi *et al.* in US Patent 6,156,473.

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Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura *et al.* in US Patent Application Publication 2003/0152857 in view of by Kobayashi *et al.* in US Patent Application Publication 2003/0091923 further in view of Tyagi *et al.* in US Patent 6,156,473.

Sugiura alone and in view of Kobayahi were discussed above. The references do not identically disclose the wax of the above rejected dependent claims, but Sugiura discloses that a wax release agent is usefully included in the toner.

Tyagi discloses an aliphatic amide release agent in toner compositions that have improved release properties and abrasion resistance (col. 2, l. 60-62), particularly when used with heated fuser rollers (col. 3, l. 51-59). Particularly effective amides include oleamide, stearamide, and erucamide, and alkylene bis fatty acid amides as disclosed (col. 5, l. 5-26; spec. p. 31, l. 2 – p. 32, l. 16).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the release agent of Tyagi in the invention of Sugiura as the release agent because Sugiura teaches that a release agent is effective to produce off set resistance and Tyagi discloses a specific release agent that is effective to prevent offset, particularly during roller fusing. The benefits are predictable and the substitution of this one release agent for those specifically disclosed in Sugiura is well within the level of skill in the art.

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura *et al.* in US Patent Application Publication 2003/0152857 in view of Yuasa *et al.* in US Patent Application Publication 2002/0086229.

Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura *et al.* in US Patent Application Publication 2003/0152857 in view of by Kobayashi *et al.* in US

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Patent Application Publication 2003/0091923 in view of Yuasa *et al.* in US Patent Application Publication 2002/0086229.

Sugiura alone and in view of Kobayahi were discussed above. The references do not identically disclose the claimed waxes, but Sugiura discloses that a wax release agent is usefully included in the toner.

Yuasa teaches that a toner usefully includes a wax additive, such as an ester based wax having an iodine value of not more than 25, a melting point of 50 to 100 °C, and a saponification value of 30 to 300, combined with another wax (¶ [0096] & Abstract). The additional wax is a hydroxystearate derivative (¶ [0100] & [0101]). The wax also may be formed by reaction of a long chain fatty acid and ammonium to form an amide (¶¶ [0114] – [0119]). The molecular weight characteristics of the additives are given in ¶ [0124].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the wax additive of Yuasa in the invention of Sugiura as the release agent because Sugiura teaches that a release agent is effective to produce off set resistance and Yuasa discloses a specific additive that gives good fixability and reduced offset (¶ [0087]). The artisan would also have found it obvious to minimize the amount of residual moisture in the silica of Sugiura because this would reduce environmental variation caused the moisture in the silica. Thus the artisan would have found it obvious to minimize the ignition loss as he/she reduced the amount of residual moisture in the silica additive.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on Monday to Thursday from 5:30 to 4:00.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher RoDee/  
Primary Examiner  
Art Unit 1756

cdr  
1 October 2007